A QUALITY IMPROVEMENT PROJECT TO REDUCE THE NUMBER OF MISSED DOSES DUE TO MEDICATION UNAVAILABILITY

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BACKGROUND

A review found that 16% of medicines incidents reported to the National Reporting and Learning System from 2005-2010 were due to missed or delayed medications. [1] Missed-doses can lead to adverse events that compromise patient safety. Missed-dose is defined as any medication not given within 2 hours of prescribed time. [2] This project focused on missed-doses due to unavailability of medication on the acute medical admission and an elderly ward.

ANALYSIS AND ASSESSMENT

Aim was to reduce the total number of missed-doses by 10%. High-risk medicines were differentiated using the specialist pharmacy service guideline. [2, 3] A data collection tool was developed and trailed, and baseline data was collected for two weeks. This showed 54 missed doses on both wards. The data was collected by the ward pharmacy team. Porters, nursing and dispensary staff were engaged within the intervention period. This project did not require ethics approval.

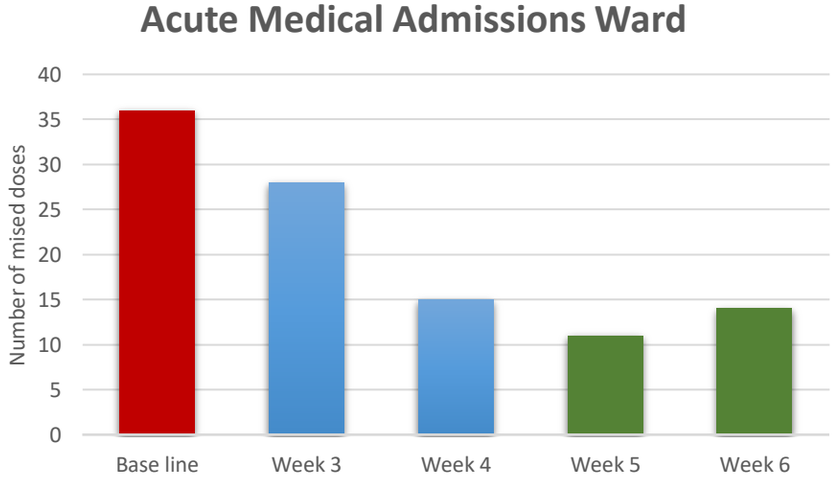
INTERVENTION

The first intervention carried out for 2 weeks was to inform the porter to notify the ward pharmacy team when medicines were delivered. Pharmacy then informed the appropriate nurses that medications were available for immediate administration. Second intervention carried out for a further 2 weeks, was for the dispensary to notify the ward pharmacy team when medications are ready, and for them to bring medications onto the wards.

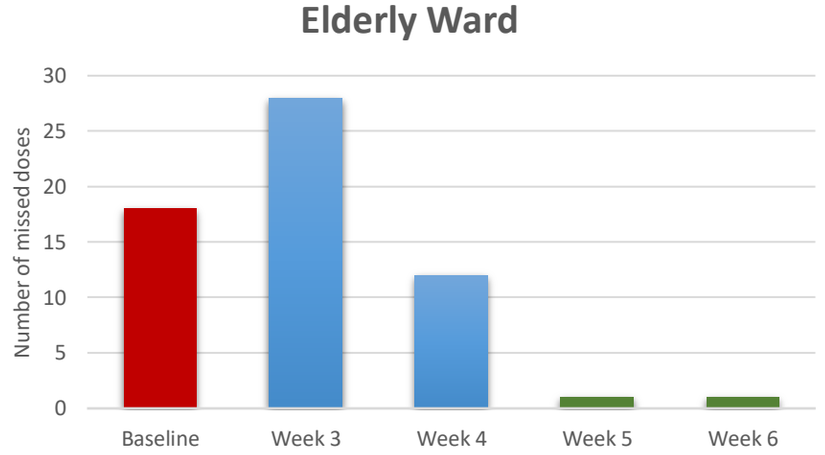
Measurement of improvement

The percentage reduction in the number of missed-doses after each intervention was compared to baseline. The first intervention did not demonstrate an significant improvement. The second intervention reduced the total missed doses on the acute medical unit by 37% and on the elderly wards by 80%. The second interventions made the largest impact in reducing the total number of missed doses across both wards, as 90% of high-risk medications were given to patients within 2 hours of time prescribed by the final week of interventions.

Results



Graph 1: the number of missed doses on the Acute admissions ward. Week 3 and 4 shows data after intervention one. Week 5 and 6 shows data after intervention two.



Graph 2: the number of missed doses on the Elderly ward. Week 3 and 4 shows data after intervention one. Week 5 and 6 shows data after intervention two.

CONCLUSIONS

The second intervention improved the efficacy in administering medications to patients on time, and the multidisciplinary working between the pharmacy and nursing team. Limitations included the constant change in the number of patients on wards, unable to obtain specific times medication reached the ward, length of time each intervention was carried out for and new staff being unaware of the ordering process. The numbers of missed doses were high on Mondays regardless of intervention, as the dispensary had a higher workload from the weekend and were unable to prioritise inpatient dispensing. To improve, it is beneficial to involve the distribution and dispensary teams and continue the interventions for another 3 months to evaluate the long-term impact. Also, explain in the ward weekly governance meeting about ordering medicines during the weekend to reduce workload on Monday.

Reference

1. Cousins DH, Gerrett D, Warner B. A review of medication incidents reported to the national reporting and learning system in England and wales over 6 years. *Br J Clin Pharmacol.* 2012 Oct; 74(4): 597– 604. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3477327/ [Accessed on: 3rd March 2021]
2. Specialist Pharmacy Service. *Reducing Harm from omitted and delayed medicines in hospital: A tool to support local implementation.* 2017. Available from: https://staff.cumbria.nhs.uk/application/files/7816/0434/0327/SPS-Tool-to-reduce-harm-from-omitted-and-delayed-medicines-April-2017-Final.pdf [Accessed on: 5th March 2021]
3. Specialist Pharmacy Service. *Reducing Harm from omitted and delayed medicines in hospital: The first stop for professional medicines advice.* 2017. Available from: https://staff.cumbria.nhs.uk/application/files/1516/0434/0353/SPS_Reducing_Harm_from_omitted_and_delayed_medicines_in_hospital.docx.pdf [Accessed on: 10th March 2021]